

Early Warning and Data Analytics

Strategy, Policy and Action for People, Places and Planet

Executive Brief

February 2025

Alexandre Caldas
Chief, Early Warning and Data Analytics Branch
Early Warning and Assessment Division (EWAD)
United Nations Environment Programme (UNEP), United Nations



Early Warning and Data Analytics

Strategy, Policy and Action for People, Places and Planet

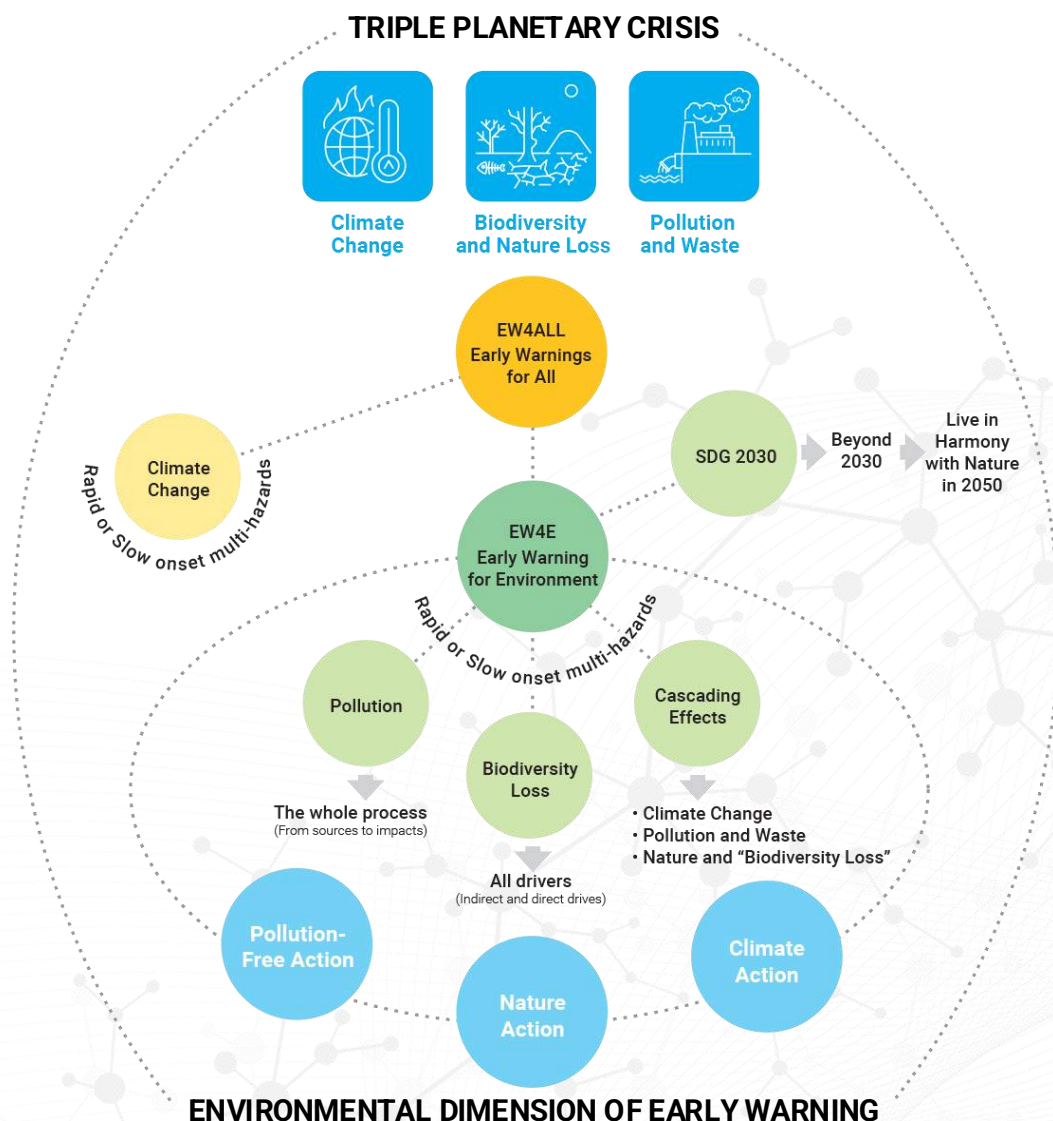
Summary

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Early Warning & Data Analytics for People, Places and Planet



FOUNDATIONAL MISSION: Keeping the World Environment Situation Under Review

Early warning systems (EWS) are an adaptive measure for climate change, using integrated monitoring, forecasting and communication systems to help communities prepare for and manage hazardous climate-related events. Successful EWS save lives and jobs, land and infrastructure and support long-term sustainability and disaster risk reduction. Early warning systems assist public officials and administrators in their planning, saving money in the long run and protecting economies and natural assets. The UN, working in diverse partnerships, has introduced a number of innovative EWS initiatives in vulnerable areas around the world.

Early Warning on the Environment

Identifying, monitoring and analysing both rapid onset multi-hazards (with a predominant focus on climate-related risks) and slow onset but continuous hazards and their interlinkages, by issuing warnings of future events that come early enough for one to prepare, respond and *Build Back Better*. Leaving No One Behind.

Saving the Lives of billions of People and preventing social and economic losses, protecting the property and natural assets of the most vulnerable communities in the world.

Providing **SCIENCE, DATA, INFORMATION** and **KNOWLEDGE** on the Environment towards decision-Making and action.

UNEP's Strategic Goal and Priorities Early Warning and Data Analytics

Strengthen the environmental dimension of Early Warning towards acceleration of the achievement of Agenda 2030 and the Sustainable Development Goals (SDGs)



Increase the Impact in Countries

- 30 *focus* countries in EW4All
- 25+ countries with CIEWS investments
- 60 CCA Countries
- One Planet EW Global, Regional and National Platform



Accelerate the achievement of the SDGs

- Geospatial and Statistics integration and Leadership at UN level
- Capacity Development on SDGs and Early Warning for Environment
- Synergies on the *Nexus* (Development, Peace and Humanitarian)
- Provision of Disaggregated Data Analytics to countries



Ensure UNEP Leadership in Early Warning for Environment

- UNEP leadership on the environmental dimension of EW4ALL
- Leadership on Geospatial Early Warning
- Leadership on Statistics for Early Warning and SDGs

Climate Action

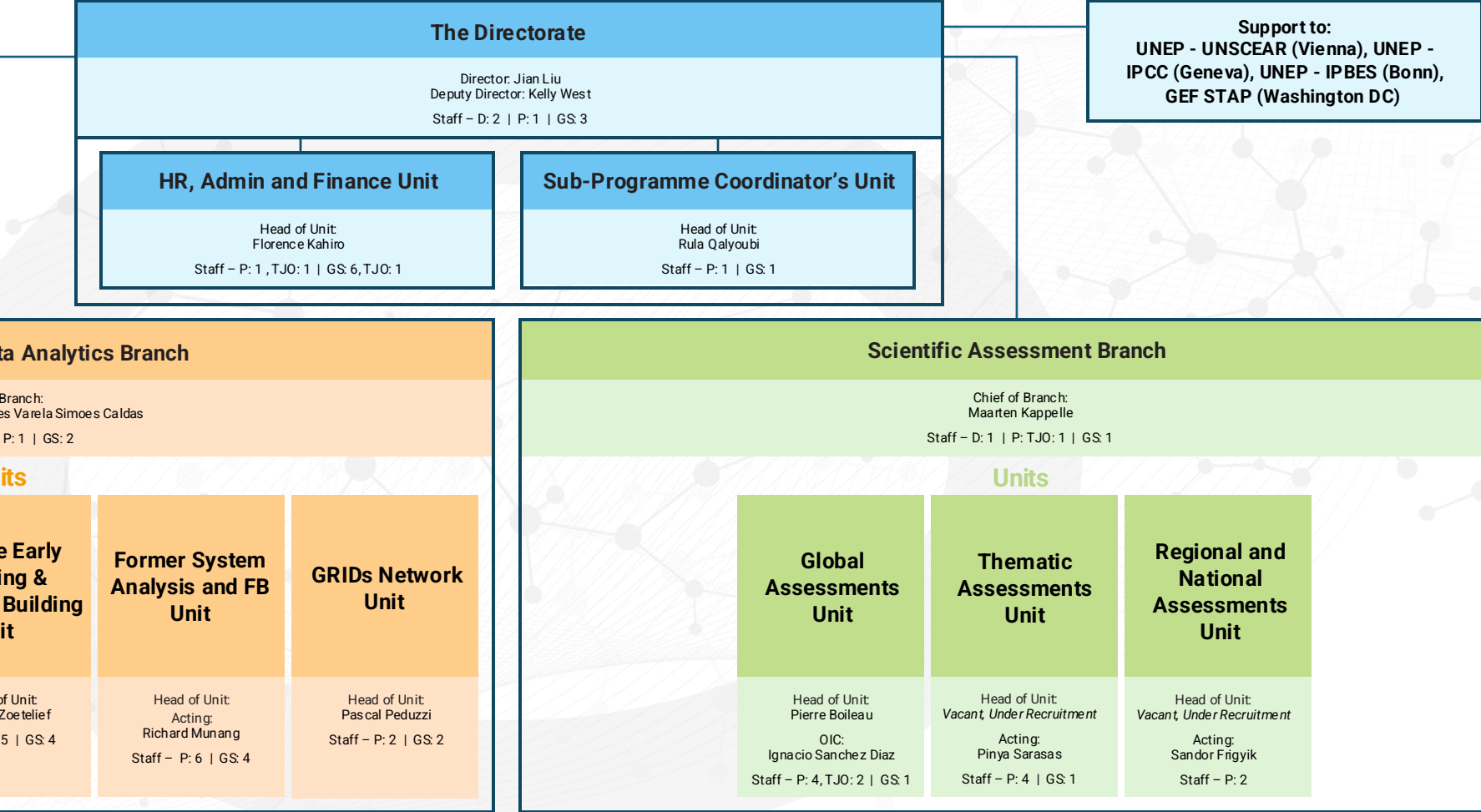
Nature Action

Chemical and Pollution Action

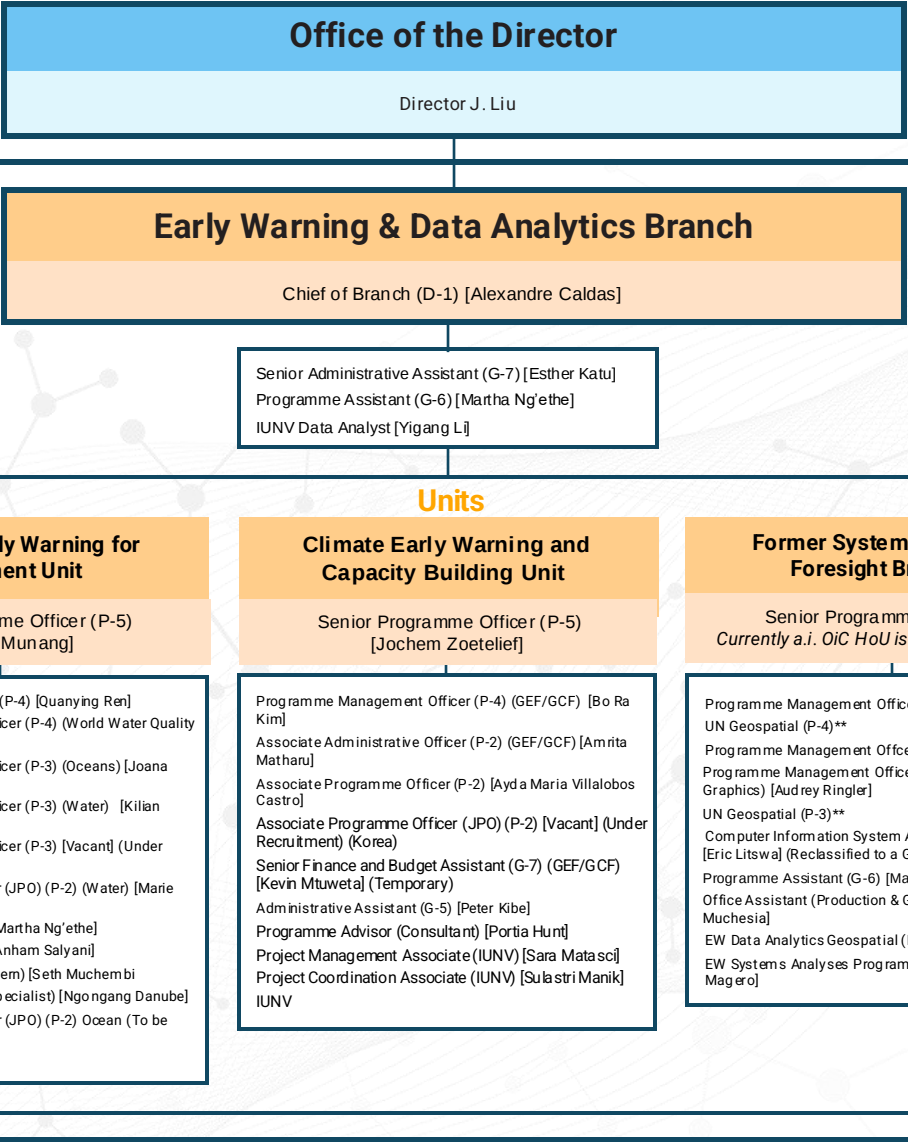
Delivering as One across UNEP Divisional, Regional Offices, and MEAs

Early Warning and Assessment Division

Early Warning and Assessment Division (EWAD) Two Branches Delivering Critical Foundational Science



Early Warning & Data Analytics Branch



Early Warning & Data Analytics for People, Places and Planet

70 Staff and Personnel in Headquarters and the Regions



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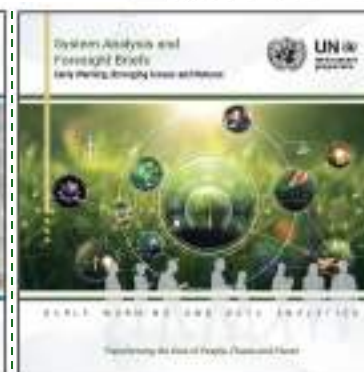
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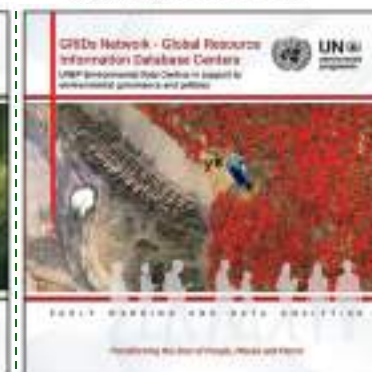
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Networks and Alliances

IAEG, UNSD

WWQA
Citizen Science
Associations

UNCTs, FAO,
UNDRR,
UNOPS,
WMO

UN Geospatial
Network,
42 UN entities

GRID-Geneva,
GRID-Arendal,
GRID-Warsaw

Who are we serving: COUNTRIES, People, Places and Planet



UN
environment
programme

One UN Common Approach to Early Warning for the Environment

16 UN Agencies:

UNEP, WMO, UNDRR, ITU, IFRC, UNDP, FAO, WHO, IOM, UNDESA, OCHA, OICT, UN Global Compact, UNOPS, IPCC and GEF.

6 MEAs:

CBD, Ramsar, UNCCD, Basel, Rotterdam and Stockholm.

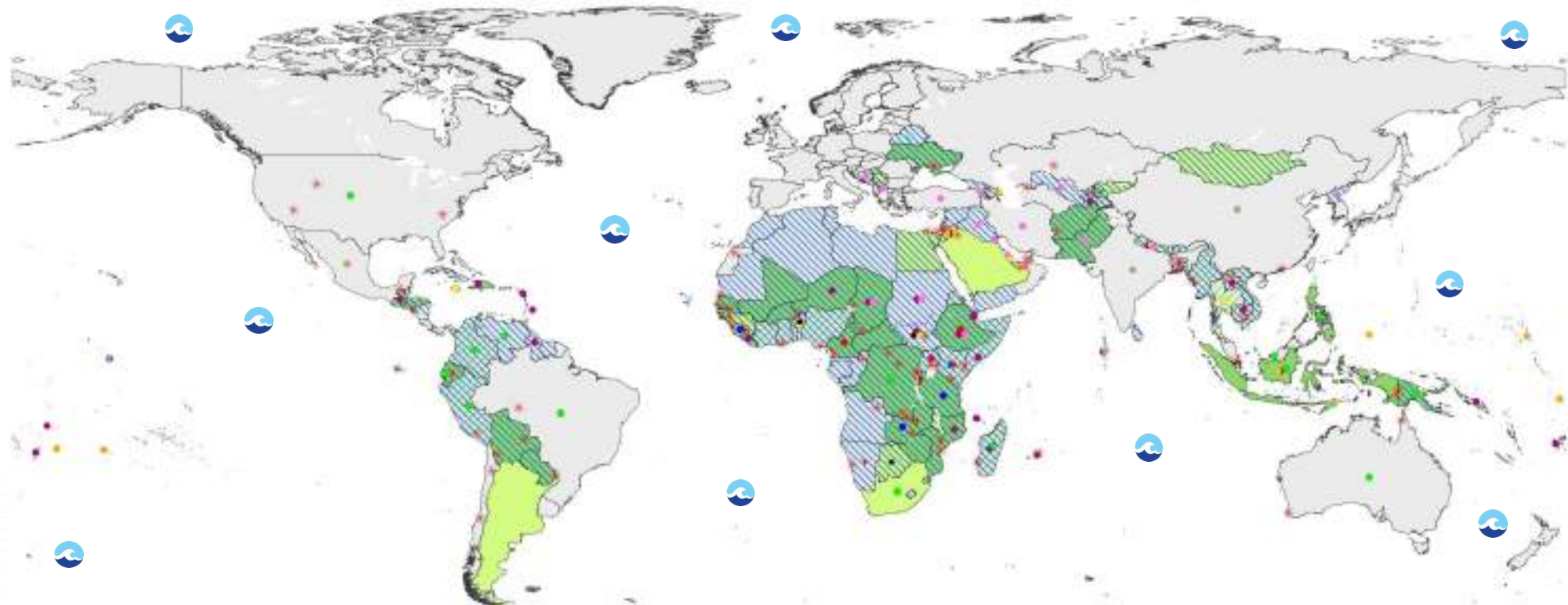
Countries share their views on Early Warning for the Environment

- **Egypt** highlighted the urgent need for Early Warning for the Environment (EWE) to cover against nature/biodiversity loss & pollution, emphasizing digitalization's role in bridging the gap between science, policy, and investments.
- **Japan** stressed the importance of integrating citizen science with digital advancements to strengthen EWE, aiming to create more resilient communities and emphasizing the importance of science-policy panels.
- **The United Kingdom** underscored the critical need for EWE in safeguarding biodiversity, proposing the incorporation of cutting-edge technology to forecast environmental threats.
- **Switzerland** highlighted its commitment to leveraging EWE for better pollution control and emphasized the need for policymakers to utilize science for informed decision-making.
- **The European Commission** underlined the importance of the EWE approach for strengthening the resilience of ecosystems and societies to environmental risks.
- **Singapore** described efforts to use digital twins for data acquisition and emphasized the role of EWE in urban settings, advocating for smart technology applications to monitor environmental health.
- **St Kitts and Nevis** pointed out the significance of EWE in small island developing states, emphasizing community-driven approaches to combat the adverse effects of climate change.
- **Italy** recognized the pivotal importance of integrating EWE within its cultural and natural heritage conservation efforts, advocating for the fusion of traditional knowledge and modern technology.
- **Indonesia** called for the enhancement of EWE systems to address the dual threats of biodiversity loss and climate change, stressing the importance of local community involvement and digital innovations.

Our WORLD IMPACT and DELIVERY: Portfolio of Services

Early Warning for the Environment: World Impact Map

Early Action for People, Places and Planet



EC Country Fiches and CCA Countries

- EC Country Fiches Project countries (46)
- CCA countries (39)
- Overlap: EC Country Fiches and CCA countries (18)

EW4All Countries

- Megadiverse countries (14)
- Most Polluted countries (17)
- Overlap: Most Polluted and Megadiverse countries (3)
- EW4ALL initiative high-priority countries (30)

Global Environment Monitoring (GEMS)

- Water Quality monitoring (Global)
- Case studies (3 countries)
- Air Quality monitoring (Global)
- Case study (1 country)
- Overlap: Air and Water Quality monitoring (Global)
- Case study (1 country)
- MyOcean Tool enhancing ocean and coastal health data availability (Global)

SDGs and Environment

- SDGs Dashboard (193 countries)
- Climate Change and Disaster-related Statistics (9 countries)
- Nature: supports Environmental-Economic Accounts (5 countries)
- Cross-cutting: capacity Building on Environment Statistics and Circular Economy (11 countries)
- Overlap countries: Climate Change/Nature (4 countries)
- Overlap countries: Climate Change/Cross-cutting (3 countries)

GCF, SOFF and GEF Portfolio

- Global Environment Facility Portfolio (3 countries)
- System Observation Finance Facility Portfolio (4 countries)
- Green Climate Fund Portfolio (8 countries)

Early Warning Data Analytics

- Disaster Risk Platform (193 countries)
- Hotspot Platform (66 Hotspots in 51 countries)
- Loss and Damage Developing countries (121)

Research4Life Access to Scientific Information

- Developing countries (121)

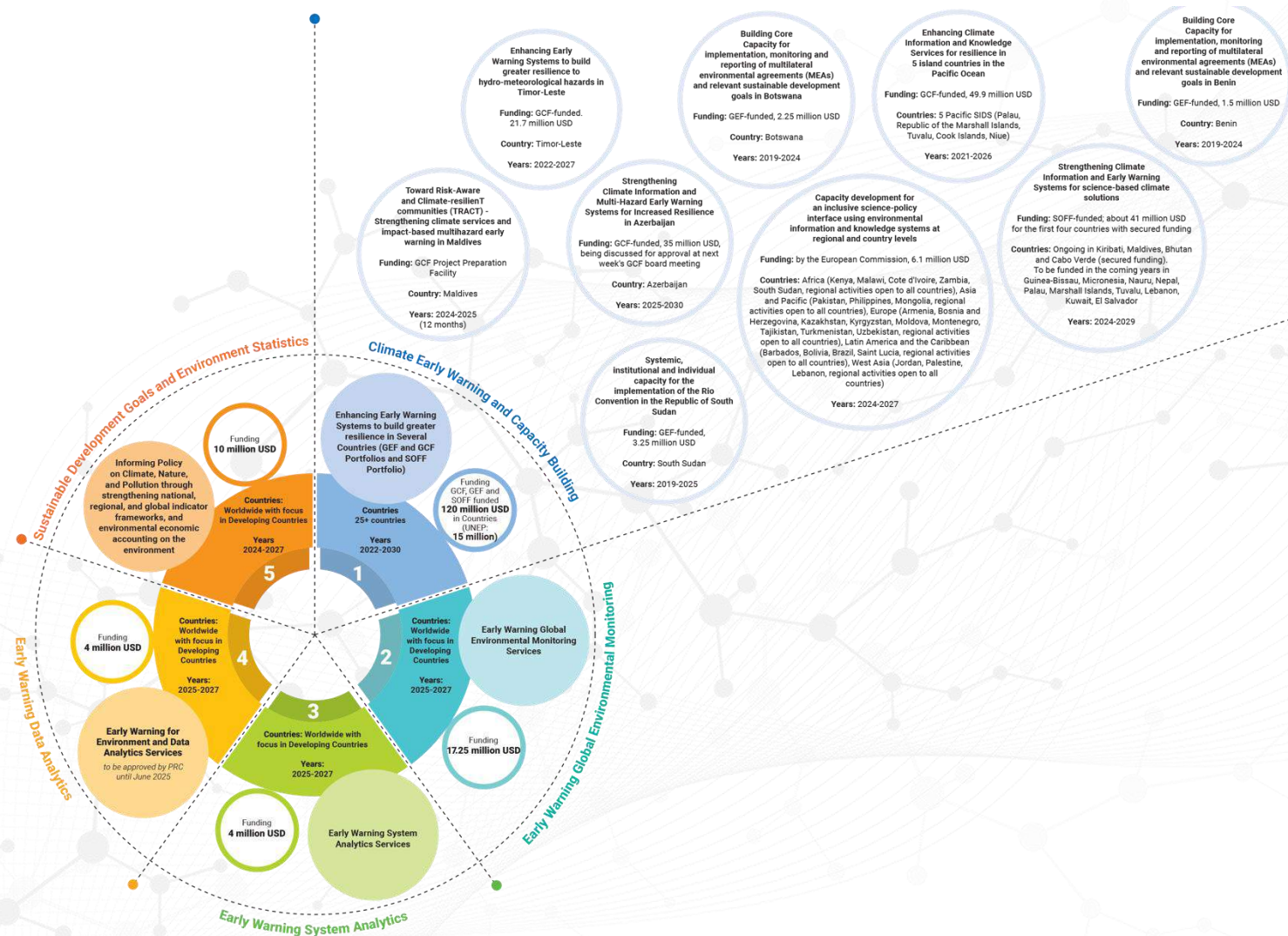
How to Implement: Programme, Projects and Funding

Early Warning Roster of Ongoing Projects' Funding and implementation in Countries Worldwide

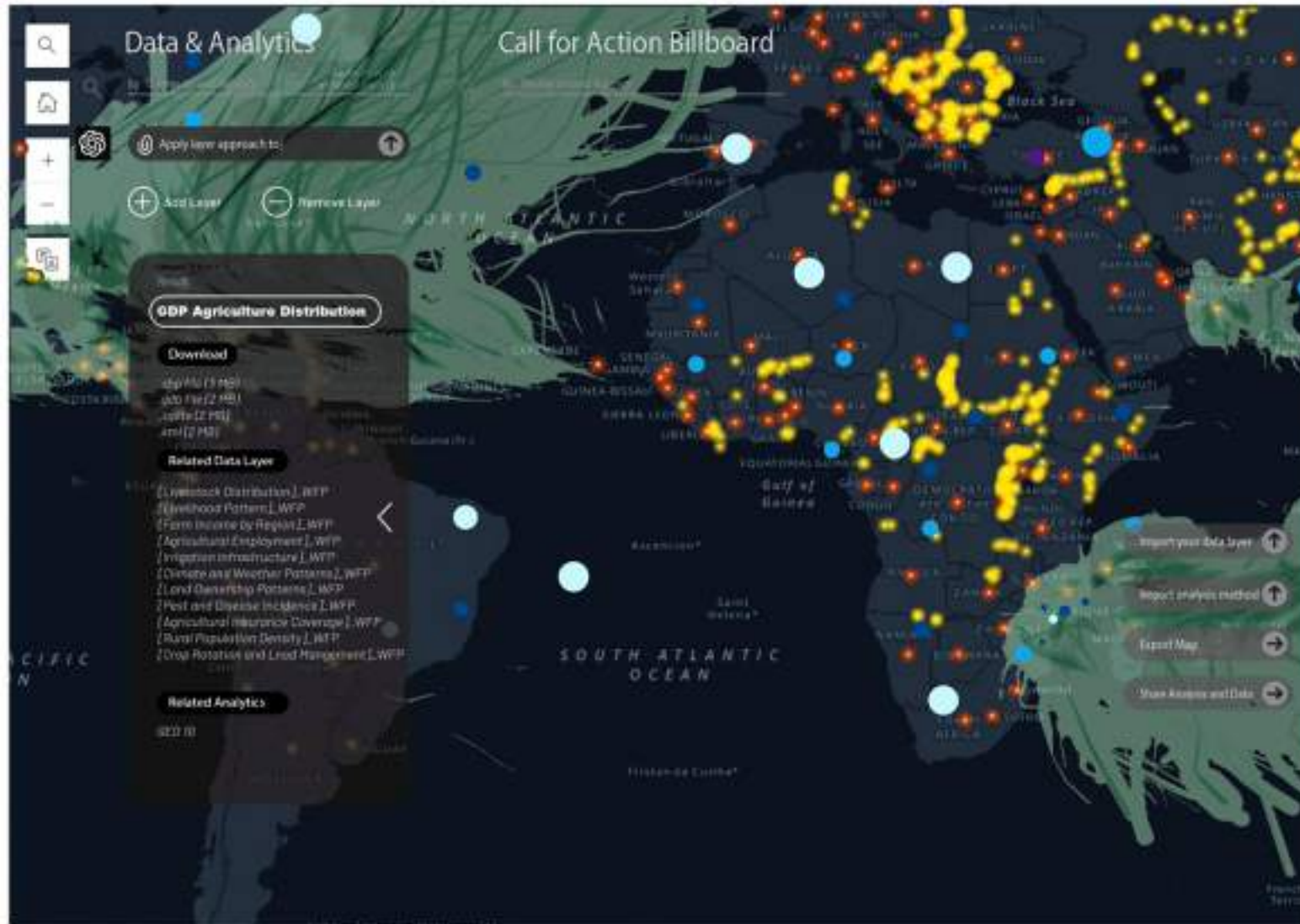


How to Implement: Programme, Projects and Funding: *in Detail*

How we are implementing Early Warning and Data Analytics Services



One Map. One Humanity



One Map - UN Geospatial Network across 42 UN agencies (1 additional page) and Early Warning Climate Resilience and Environment (Priority UN Geospatial for UN system)

Early Warning Climate Resilience and Environment (Marine Plastics) (Priority UN Geospatial for UN system)

**United Nations**

**United Nations Geospatial Network**
Committee of Experts on Global Geospatial Information Management



The environment

Led by the United Nations Environment Programme, the priority data theme on the environment includes topics related to the triple climate crisis as biodiversity and nature, pollution and waste and early warning services.

UNEP built the World Environment Situation Room providing federated data system of the best openly accessible environmental data, information and knowledge to support decision-making, policy and action at the global, regional, national and local levels for sustainable development and national planning needs. The WESR leverages capacities within a network of partner organizations including UN entities, regional and national organizations, and the established network of GRIDs and collaborating centers. The federated data system brings together over 45 data platforms and 70 data sources. Priority data themes available in the One UN Geospatial Situation Room include list the 5 themes/services as, tbc.



STRATEGY, Operations and Implementation: *in One Pager*



Early Warning and Data Analytics

Strategy, Policy and Action for People, Places and Planet

Given the importance of data analytics and early warning services to the world, the Early Warning and Data Analytics takes stock of the current approach, strategies and direction of the Early Warning across the UN system (eg Early Warning for All.) as to how they support UNEP's 3 priority areas of climate change, nature and pollution, as well as the new strategic reposition in the domain of Early Warning, and keep the world environment under review.

[Brochure](#)[Strategy](#)[One Pager](#)[Facts & Figures](#)

[Download](#)

[Download](#)

[Download](#)

[Download](#)

<https://wesr.unep.org/earlywarning>

Decisions from SMT

1. Governance is to stay in UNEP. EW4E should be considered as a UNEP initiative and, as such, is to be governed by UNEP Digital and Data Governance Group Board, with a subset of the Board serving as a Steering Committee so as to ensure appropriate oversight. Under no circumstance, should there be an external governance mechanism to the initiative.
2. There are to be no stand-alone or regional data platforms, EW4E should be fully integrated within new WESR platform and use existing capabilities and datasets, including the revamped WESR-CCA/Country Environment Dashboards and other sources.
3. Directors/Heads of MEAs are encouraged to appoint a focal point for EW4E [EWAD to reach out as appropriate.
4. EWAD is to prioritise the development of a budget, bearing in mind that the Division will be constrained by what it is able to mobilise.



Thank you

Questions and Answers



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Early Warning and Data Analytics

Strategy, Policy and Action for People, Places and Planet

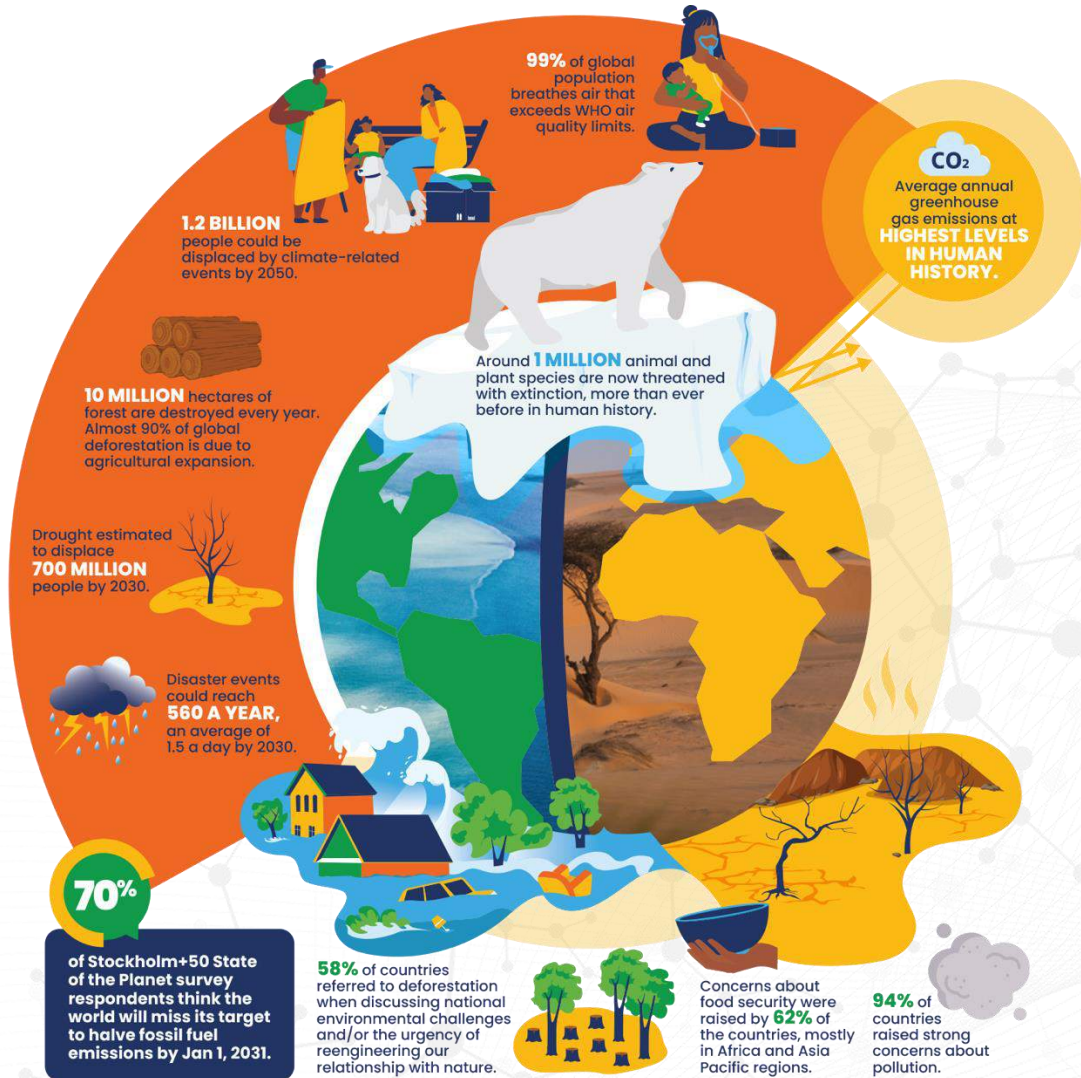
Detailed Presentation

February 2025

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Early Warning on the Environment



A complex, uncertain and unstable Future for People, Places and Planet

Early Warning for Environment

Strategic Positioning (Inger's Communication to Workshop Geneva, ROE, 14 UN Agencies and 6 MEAs, November 2023)

We all know the **importance of early warnings for climate change and related disasters**. Early warnings can enhance resilience and adaptive capacity and reduce future loss and damage. Early warnings can save lives, livelihoods and nature's services. They protect assets that are worth far more than the costs of the systems themselves. They work.

Through our Climate Information and Early Warning Systems (CIEWS) portfolio, UNEP helps countries across the world to **increase access to high-quality weather and climate data, forecasting, and multi-hazard early warning systems** that underpin evidence-based policy and early action.

UNEP is proud to be part of the UN's Early Warnings for All initiative (EW4All), including as a founding partner and implementer of the Systematic Observations Financing Facility – a partnership between WMO, UNDP and UNEP.

But while extreme weather and climate change-induced disasters are often the most dramatic events affecting lives, livelihoods and ecosystems, they are not the only ones we need to predict, prepare for and head off where possible. **Alongside climate change, nature and biodiversity loss, and pollution and waste complete the triple planetary crisis.**

Early Warning for Environment

Strategic Positioning (Inger's Communication to Workshop Geneva, ROE, 14 UN Agencies and 6 MEAs, November 2023)

UNEP is already looking further into the future to predict signals of change. But we must do more. **This is why you are now tasked with building a strategy for Early Warning for Environment.**

Nature loss and pollution are often more slow-onset and less visible than climate change, but no less damaging to lives and livelihoods. Air pollution and land degradation are perfect examples. Millions of people die around the world each year from air pollution, while billions of people are affected by land degradation. We also must consider issues like pollinator loss, zoonotic spillover, the erosion of natural barriers to floods and landslides, and more.

This dimension will require a systematic approach to tracking the sources of pollution and waste and the drivers of nature and biodiversity loss. **It will require the cooperation of all relevant agencies and Multilateral Environmental Agreements (MEAs)** – including the Kunming-Montreal Global Biodiversity Framework, the new Global Framework on Chemicals and the upcoming deal on plastic pollution.

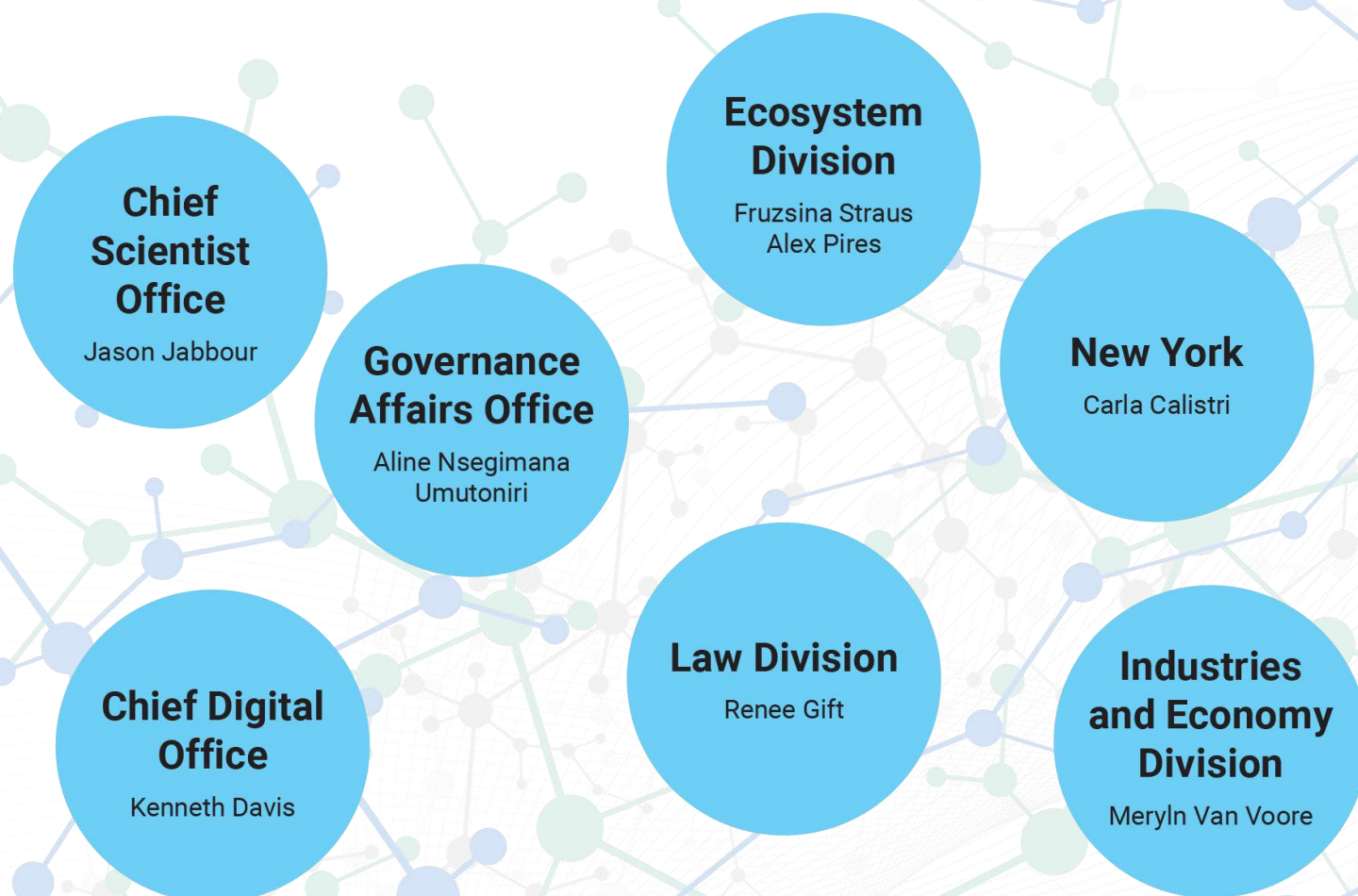
Each agency and MEA must be a contributor and beneficiary and support the UN Common Approaches to biodiversity and pollution – with a view to boosting **the achievement of the Sustainable Development Goals.**

Decisions from SMT

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ACTING AS ONE, Across UNEP Task Team

UNEP Divisions and Offices



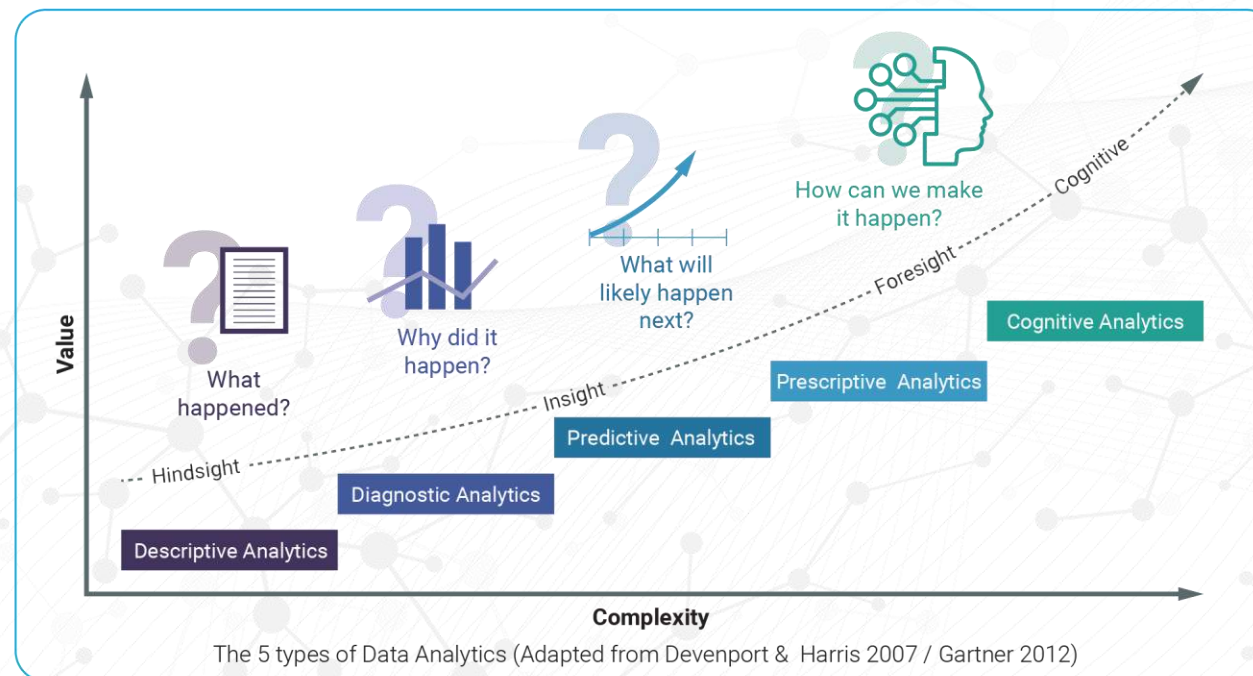
UNEP Regional Offices



UNEP's Data Analytics Service Portfolio

Data Analytics is used for the discovery, interpretation, and communication of meaningful patterns in data towards effective decision making.

Data Analytics is rated as highly relevant by 82% of the countries for the UN Sustainable Development Cooperation Framework.



Data Analytics: is the systematic computational analysis of data or statistics. Five main types are descriptive, diagnostic, prescriptive, predictive and *Cognitive*, including artificial intelligence.

Geospatial, Statistics and Data Analytics: are fundamental Accelerators for the Achievement of Global Agendas as Agenda 2030 and the Sustainable Development Goals.

Climate Action

Nature Action

Chemical and Pollution Action

Delivering as One across UNEP Divisional, Regional Offices, and MEAs

Early Warning Systems for All – Dashboard of Implementation

Establishing, upscaling and strengthening end-to-end Climate Information Services and **Multi-Hazard Early Warning Systems (MHEWS)** to enhance resilience and adaptive capacity – helping to save lives, livelihoods and ecosystems in the face of climate-related hazards.



UNEP is also a co-founder and implementing entity of the Systematic Observations Financing Facility (SOFF) which supports the most vulnerable countries to **close critical weather and climate data gaps** that underpin better weather forecasts, early warning systems, and climate information services.

UNEP's Climate Information and Early Warning Systems (CIEWS) Portfolio

Establishing, upscaling and strengthening end-to-end Climate Information Services and **Multi-Hazard Early Warning Systems (MHEWS)** to enhance resilience and adaptive capacity – helping to save lives, livelihoods and ecosystems in the face of climate-related hazards.

Core components of UNEP's CIEWS initiatives:

- Strengthening **institutional frameworks** for climate information and MHEWS
- Enhancing capacity for **monitoring, analysis and forecasting** of climate and its impacts
- Improving **dissemination and communication** of risk information and early warnings
- Enhancing **climate risk management capabilities**

UNEP is also a co-founder and implementing entity of the Systematic Observations Financing Facility (SOFF) which supports the most vulnerable countries to **close critical weather and climate data gaps** that underpin better weather forecasts, early warning systems, and climate information services.



UNEP Climate Information and Early Warning Systems Portfolio



- GCF approved/ under implementation
- GCF under development
- SOFF proposal
- SOFF under implementation

3 approved GCF initiatives: \$49.9 million programme for 5 Pacific SIDS, \$21.7 million project for Timor-Leste, \$24.9 million project for Azerbaijan

7 GCF project proposals in the pipeline across Africa, Asia, Latin America and the Caribbean (incl. Maldives, submitted to the GCF in December 2024)

14 countries supported in the SOFF across Africa, Asia and the Pacific
4 countries started implementation (incl. Maldives, Bhutan, and Kiribati)
2 countries are approved but not yet funded (Nauru and Timor-Leste)

Initiatives funded by the Green Climate Fund (GCF)

Pacific Programme

Objective: establish integrated climate and ocean information services & MHEWS in Cook Islands, Niue, Palau, Marshall Islands, Tuvalu; enhance regional knowledge management and cooperation for climate services & MHEWS.

Programme: GCF-funded, 49.9 million USD, benefits 100% of the population in all five countries.

Outcomes: a) increased generation and use of climate information in decision making; b) strengthened adaptive capacity and reduced exposure to climate risks; c) strengthened awareness of climate threats and risk-reduction processes.

Timor-Leste Project

Objective: establish end-to-end climate information services and MHEWS, build capacity to deliver robust climate data and information at all stages of the climate services value chain.

Project: GCF-funded, 21.7 million USD, benefits 100% of the population in Timor-Leste.

Outcomes: a) increased generation and use of climate information in decision making; b) strengthened adaptive capacity and reduced exposure to climate risks; c) strengthened awareness of climate threats and risk-reduction processes.

Azerbaijan Project

Objective: establish capacity for climate information services and people-centred, impact-based MHEWS, to support science-based policies, decision-making, preparedness and timely risk communication.

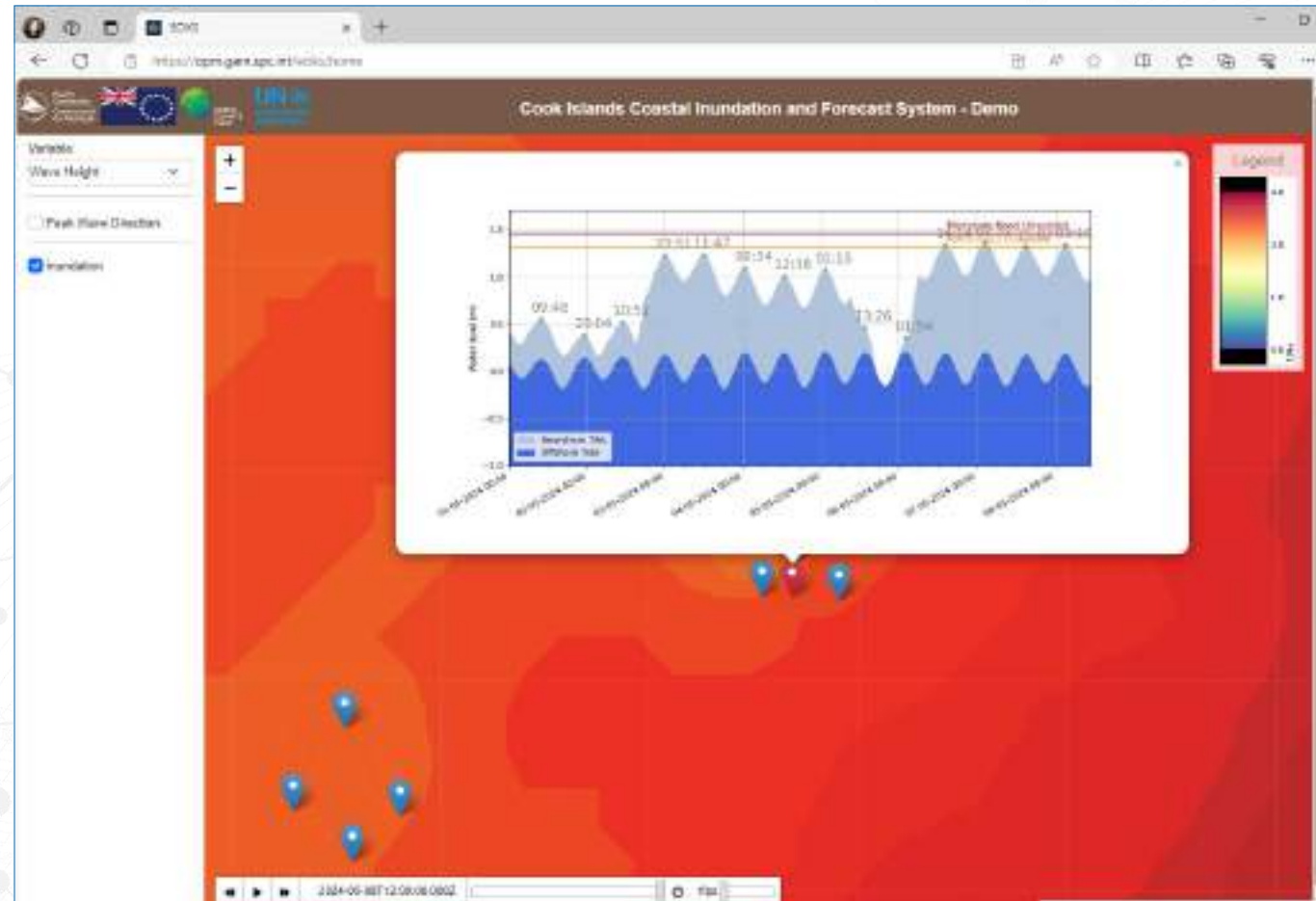
Project: GCF-funded, 35 million USD, benefits 9.32 million people.

Outcomes: a) science-based climate and disaster risk information is widely available and accessible; b) decision-making is supported by reliable climate information services and impact-based MHEWS; c) increased resilience and reduced vulnerability to the adverse impacts of climate change and climate threats.

GCF Funded CIEWS Portfolio



Temporary Tide Gauge in Cook Islands, Pacific Programme



Coastal Inundation and Forecast System in Cook Islands, Pacific Programme

GCF Funded CIEWS Portfolio

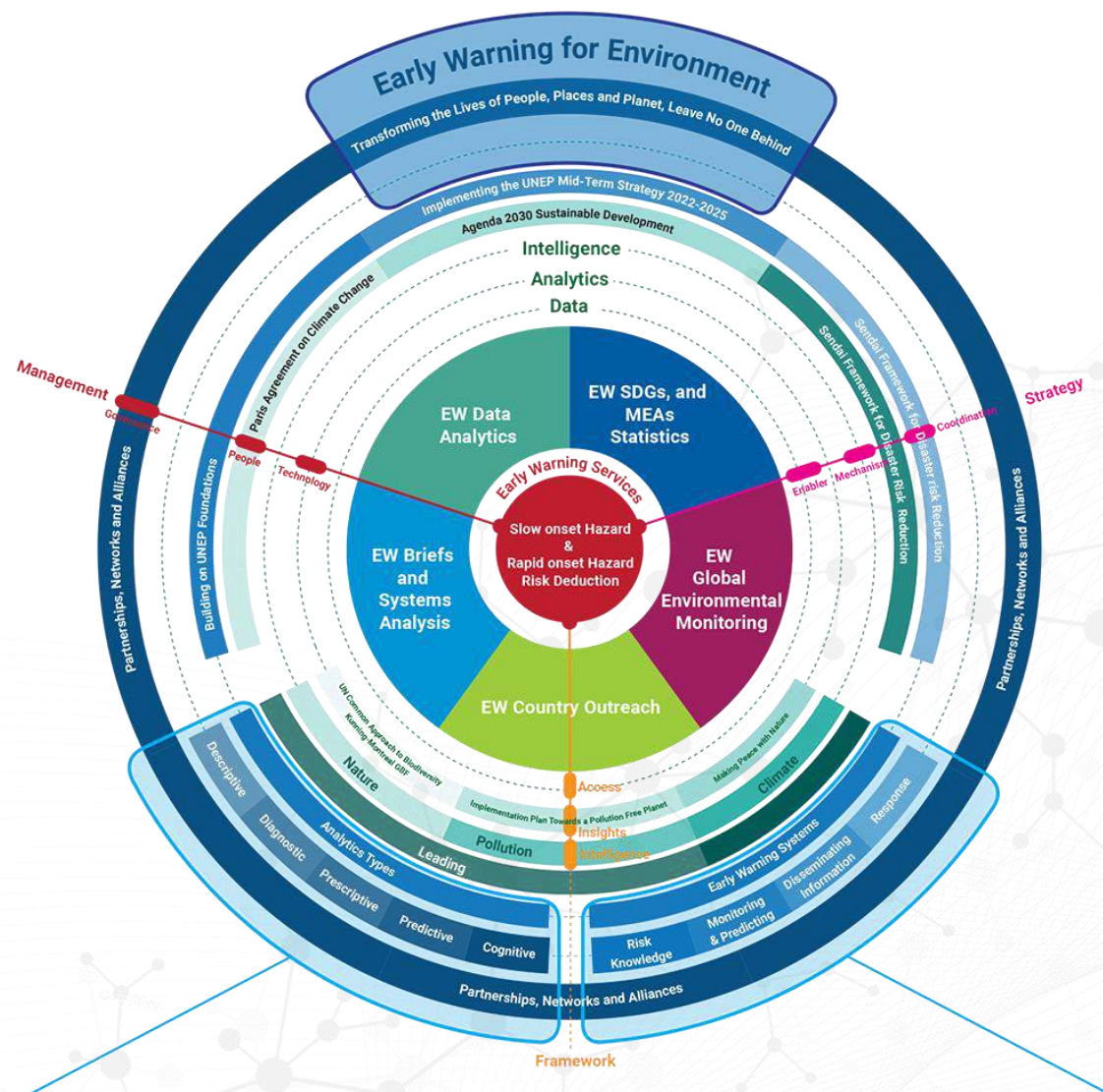


Automated Weather Station in Niue, Pacific Programme



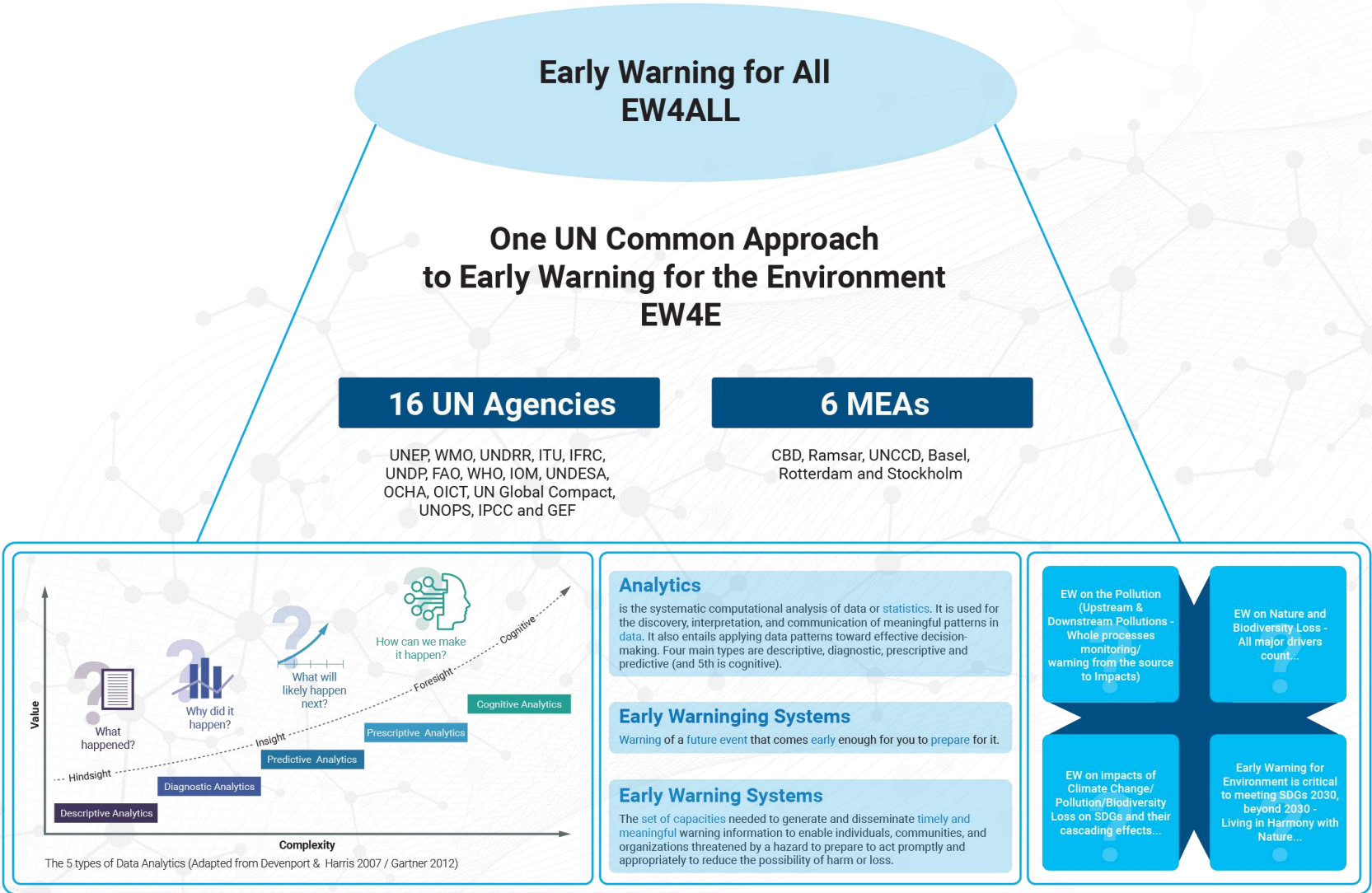
Low-Cost Weather Station in Timor-Leste

An Integrated Framework of Services



Identifying, monitoring and analysing both **rapid onset multi-hazards** and **slow-onset but continuous hazards** and their interlinkages or issuing warnings of **future events** that come early enough for one to prepare, respond and Build Back Better. Leaving No One Behind.

An Integrated Framework of Services



Contribution to Global Biodiversity Framework (GBF)

GEMS and EWE SERVICES TO COMPLIMENT FOCUS AREA: Sustainable and inclusive use of biodiversity and Restore and enhance nature's contributions to people

- Map out biodiversity loss hotspots and **match them to potential upstream risk causes**.
- Catalyze collaborations **to analyse the data on hotspots** and establish those in areas with ready community structures and engage communities for training as **citizen scientists to monitor upstream risk** causes of biodiversity loss.
- Leverage **data** on enablers of community-led solutions to nature-biodiversity **loss to inform policy and investment planning** to enable uptake of solutions.
- **Monitor the state of biodiversity** to prioritize establishing **upstream hotspot** areas of food systems, water, and health.
- Analyse the **data on hotspots** and establish those in areas with ready community structures and engage communities for training as citizen scientists **to monitor potential actions/solutions to forestall risks in the hotspot areas**.
- Develop **digital maps**, including simulations to extrapolate and interpolate **to close data gaps, towards matching hotspot areas to potential citizen-driven actions** in forestalling biodiversity risks in hotspot areas.
- Extrapolate maps to inform **policy and investment** actions towards protecting and enhancing biodiversity by internal (UNEP-wide) and external stakeholders.

Contribution to Global Biodiversity Framework (GBF)

GEMS and EWE SERVICES TO COMPLIMENT FOCUS AREA: Public policy mainstreaming and Finance and financial flows

- Leverage data from trained citizen scientists as well as literature review on actions to **forestall biodiversity risks** and develop knowledge materials, e.g., case studies and policy briefs.
- Leverage the above knowledge and data/analytics resources to inform the **development of investment plans and policy incentives to catalyze the uptake of actions** in forestalling biodiversity loss risks.
- Catalyze collaborations to analyze **impact data of actions to address upstream biodiversity risks** and establish key **social, environmental, financial, and economic impacts** as well as social (e.g., skills development), market (e.g., competitive product development), finance (e.g., use fiscal incentives/affordable capital etc.) enablers to drive uptake.
- Catalyze collaborations to **compile impact data into knowledge products**, e.g., case studies for sharing by policy and non-policy actors to invest in nature-positive actions in the flagship areas.
- Catalyze collaborations to integrate **impact data on the above actions into digital platforms** that match data on the **state of biodiversity loss to upstream risks** and **actions to forestall for sharing with policy** and non-policy actors to **invest in nature-positive actions** in the flagship areas freshwater/marine; food systems; plastics; One-Health.

Contribution to One Health Initiative (One Health)

GEMS and EWE SERVICES TO COMPLIMENT One-Health

- **Strengthening health surveillance** by way of **leveraging data on the midstream state** of the environment to **detect potential health implications** and matching these to **upstream environmental sources and risks** so they can be forestalled.
- For example, **data on the water quality** of a river at the midstream, which shows high levels of **nitrites, pathogens**, etc., is matched to potential **health challenges that may arise, such as increased cases of cholera** and other hygiene-related illnesses that may be recorded in **local health centres**.
- This midstream data on the **state of water then triggers investigations upstream of the river of potential upstream risk sources & causes**, such as effluent from farms, domestic and industrial sources, etc., that can be **established through primary data from community-led surveys** as well as secondary and tertiary data sources recorded about the areas. This upstream data is then matched to actions, such as wastewater circularity established through literature review, that can forestall and minimise the upstream risks and hence forestall the attendant health risks and the enablers needed to catalyse enhanced uptake of these actions.
- Generate **data on the midstream state of the environment** – i.e., water quality, air quality, oceans/coastal health, from diverse sources and match them to potential health risks that can result from this state of the environment. Use **primary data from environmental monitoring initiatives, surveys of medical centres/pharmacies** on disease trends, community voluntary environmental monitoring, as well as literature reviews.
- Match data on the environment's midstream state to potential upstream risk sources and causes. Use primary data from environmental monitoring initiatives, **including community voluntary environmental monitoring**, as well as literature reviews.
- Converge partnerships to **match data on the upstream risk sources and causes to potential actions that can forestall and minimise the risk causes and match actions to key enablers needed to catalyse uptake** and compile into **investment plans to drive uptake**. Leverage primary data sources as well as literature reviews.

Contribution to One Health Initiative (One Health)

GEMS and EWE SERVICES TO COMPLIMENT One-Health

- Mobilise and train **voluntary community members into citizen scientists** to engage in monitoring potential **upstream risk sources** and causes to generate **data on upstream risk sources** and causes to midstream environmental risks.
- Mobilise and train voluntary community members into citizen scientists to engage in **monitoring potential actions** that can forestall/minimise the upstream risk sources and causes established.
- Converge partnerships to facilitate analysis, as well as simulations forecasting long-term impact of actions to forestall environmental risk sources and causes on health to **inform investment and policy planning towards expanded application of these forestalling actions.**



Envato Elements / Rawpixel

Contribution to Pollution Free Planet Framework (Pollution)

GEMS and EWE SERVICES TO COMPLIMENT to Pollution Free Planet

- Converge partnerships to generate data on the midstream state of pollution **on water, air, oceans/coastlines**, focusing on plastics and nonplastic waste, including organic waste. Use primary data from environmental monitoring initiatives, including open sources, community voluntary environmental monitoring as well as literature reviews.
- Converge partnerships to match data on midstream pollutants to potential upstream risk sources and causes, e.g., waste dumps, waste burning, effluent from domestic/agriculture/industrial, transport, etc. Use **primary data from environmental monitoring initiatives, including from community voluntary environmental monitoring** as well as literature reviews.
- Converge partnerships to **match data on the upstream risk sources and causes** to potential actions that can forestall and minimize the risk causes, e.g. waste circularity, and match actions to key enablers needed to **catalyze uptake and compile into investment plans to drive uptake**. Leverage primary data sources as well literature reviews.
- Mobilise and train **voluntary community members into citizen scientists** to engage in **monitoring potential upstream risk sources and causes to generate data on upstream risk sources** and causes that match the midstream state of pollution.
- Mobilise and train **voluntary community members into citizen scientists to engage in monitoring potential actions** (e.g., circularity in plastics/organic waste, etc.) that can **forestall/minimise the upstream risk sources** and causes established.
- Converge partnerships to **facilitate analysis, as well as simulations forecasting long-term impact** of actions to forestall environmental risk sources and causes on addressing pollution to inform investment and policy planning towards expanded application of these forestalling actions.

BUILDING ON WESR, Early Warning for Environment and Data Analytics Services



- Future digital products / platforms that provide early warning and data analytics services include:
 - Monitoring of global environment hotspots, by satellite images
 - Country risk profiles, with multi-hazard data analytics and prediction non exposure and risks under different climate scenarios
 - Earth Live : Near-real time monitoring of essential variables
 - Monitoring of Planetary Boundaries
- They would be integrated and **fully accessible from WESR**, instead of being a stand-alone platform.

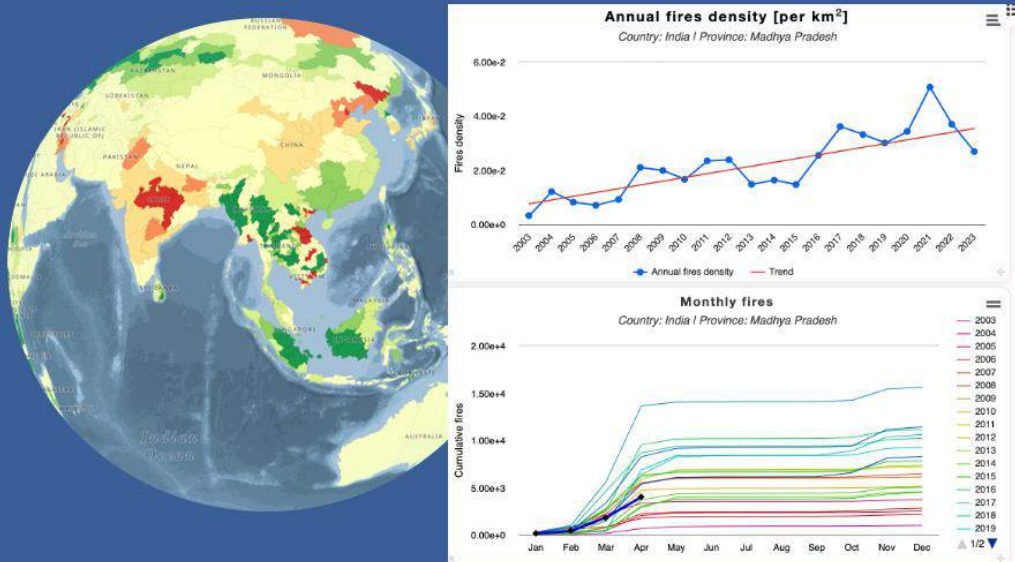
Demo platform at <https://early-warning.unepgrid.ch/>



GRID's Network Contributions to Global Biodiversity Framework

Data platforms Transforming data into information + data sharing

- Environment Early Warning & Analytics
- Tracking impacts on biodiversity
- Serving geospatial datasets data visualisation



Modeling and monitoring (Big) Data processing, stats, GIS & remote sensing

- Monitoring of biodiversity variables
- Monitoring in near-real time
- Identification of Environmental Hotspots using remote sensing



Contribution to Pollution and Nature

Sound data, statistics, and environmental economic accounts generated, shared, and used for pollution and nature actions

Statistical Methologies	Index for Coastal Eutrophication Potential, EST, waste, global footprint tool
Monitoring	Data collection, validation, reporting, stories
Capacity development	Online courses, step-by-step guidelines, webinars, in country workshops, tools Circular economy, EW-MFA , waste, ...
System of Environmental Economic Accounting	Central Framework Plastic Flows; EW-MFA, waste, emissions, residuals
Analysis	Progress, Disaggregation, Gender-Environment, Interlinkages



Global Environment Monitoring System for Freshwater (GEMS/Water) Programme



**GEMStat
Database**



**Global Network
of National
Focal Points**



**SDG 6.3.2 on
ambient water
quality**



**Regional
Support
Networks**

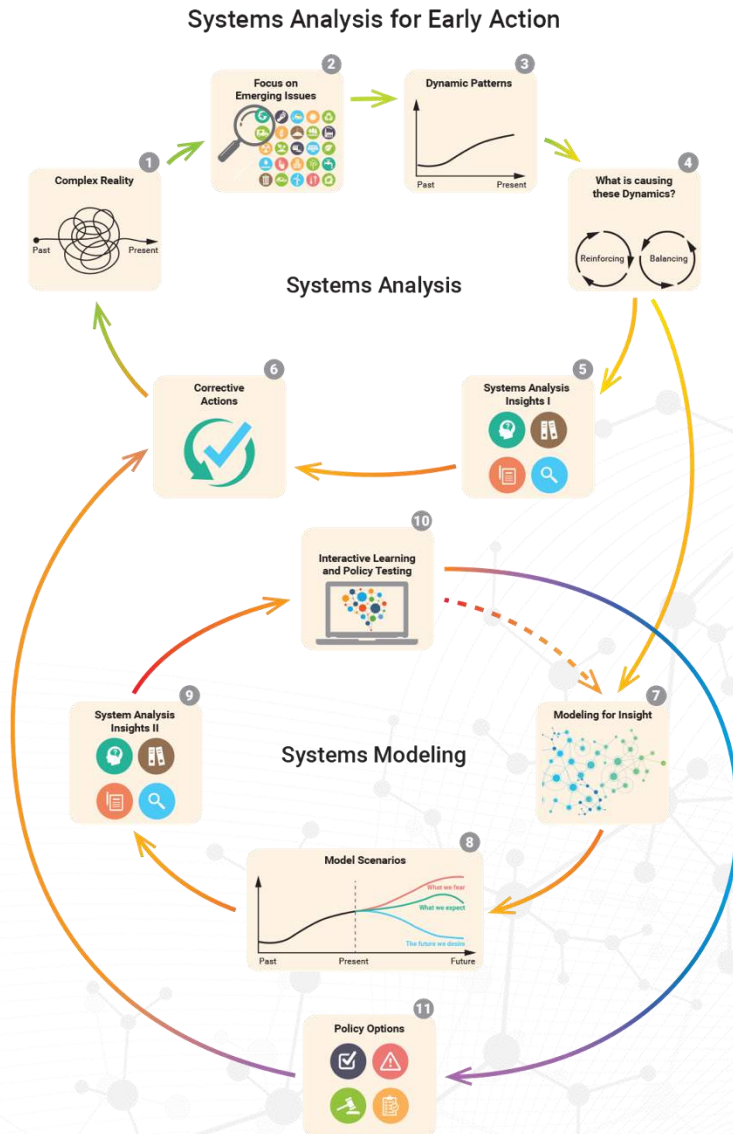


**Capacity
Development**

UNEP GEMS/Water:

- Provides quality assured data to keep the state of the world's freshwater resources under review,
- Develops capacity of member states,
- Provides information and services across the science-policy-public interface, and
- Advocates the 2030 Agenda for Sustainable Development.

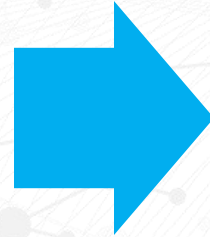
System Analysis and Foresight Briefs Contributions



- Increasing awareness of **emerging environmental issues** through the publication of science-based **Foresight Briefs** providing policy guidance, insights and early warning of issues falling under the triple planetary crises.
- Development of online simulators and scenario generators focused on emerging environmental issues that enable policymakers to better understand structural issues **and explore different policy interventions** and their **potential outcomes**. These tools assist in understanding the **long-term implications** of policy decisions and in making **informed decisions**.
- Contributes to the **synthesis and enhancement of UNEP's collective efforts** towards **environmental early warning as one** and delivering on UNEPs Early Warning for the Environment and through collaboration with the United Nations Strategic Foresight Community of Practice.

Why Early Warning for Environment

1. There is a need for strengthened environmental governance at all levels. The planetary crises of climate change, pollution, nature and biodiversity loss can only be tackled successfully if they become a top policy Priority and Action supported by legislation, inclusive decision-making, monitoring, and enforcement.



2. Humanity has been facing multiple interlinked (SYSTEMIC) environmental, social, economic and health challenges – Including the TRIPLE PLANETARY CRISIS: the climate change crisis, pollution, biodiversity loss and the extinction of species, deforestation, land degradation, increased incidents of environmental disasters, widening gaps between rich and poor, backlash to women's rights, lack of decent jobs and new emerging zoonotic diseases. The complexity and difficulties of addressing these challenges are compounded **by the urgent need for action and the current fragility of the global economy.**

Triple Planetary Crisis

Climate Change, Biodiversity Loss and Pollution

“Lead us out of this mess”, SG urged delegates at the Swedish summit convened by the UN General Assembly, in a call for action against a “triple planetary crisis” that’s been caused by the climate emergency – “that is killing and displacing ever more people each year” – biodiversity loss – which threatens “more than three billion people” – and pollution and waste, “that is costing some nine million lives a year”.



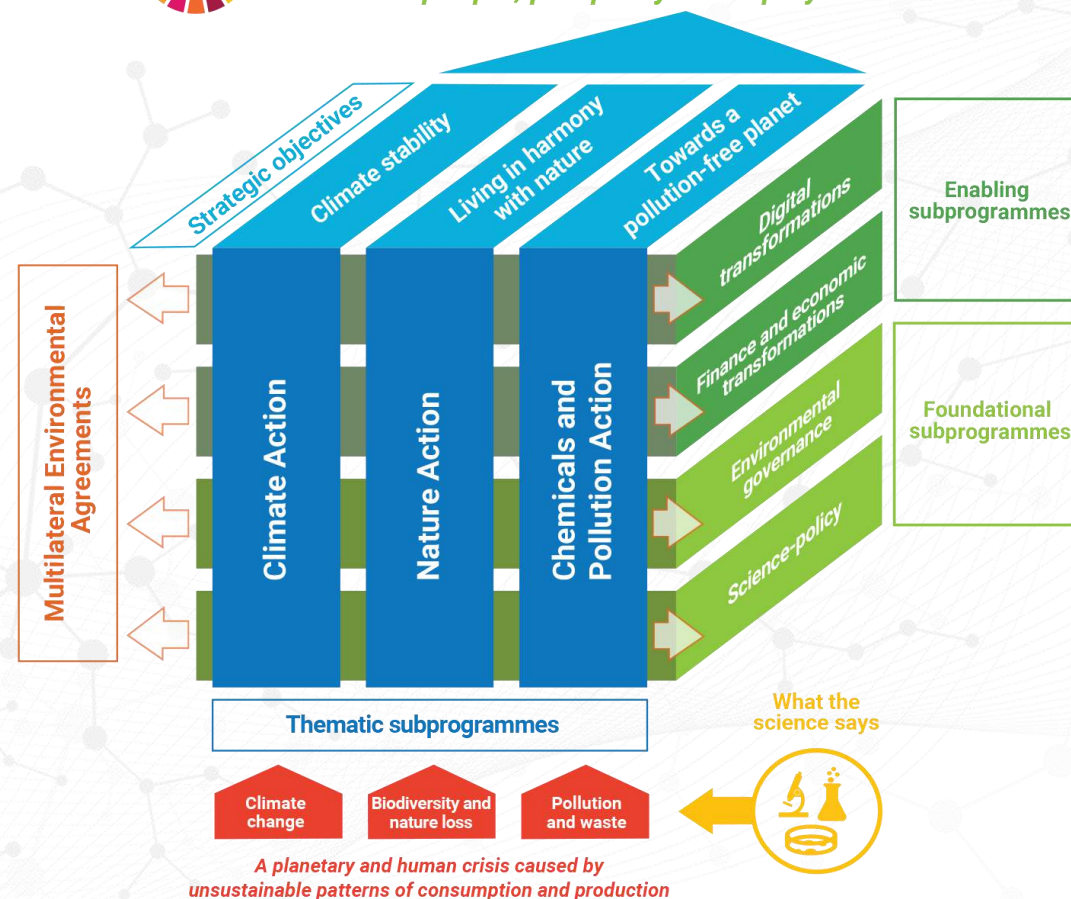
All Nations should do more to protect the basic human right to a clean, healthy environment for everyone, UN SG Mr. Guterres insisted, focusing in particular on “poor communities, women and girls, indigenous peoples and the generations to come”. – *by the Secretary-General of the United Nations*

Aligned with UNEP – Mid Term Strategy and Agenda 2030

UNEP Medium-Term Strategy 2022–2025: On the road to 2023

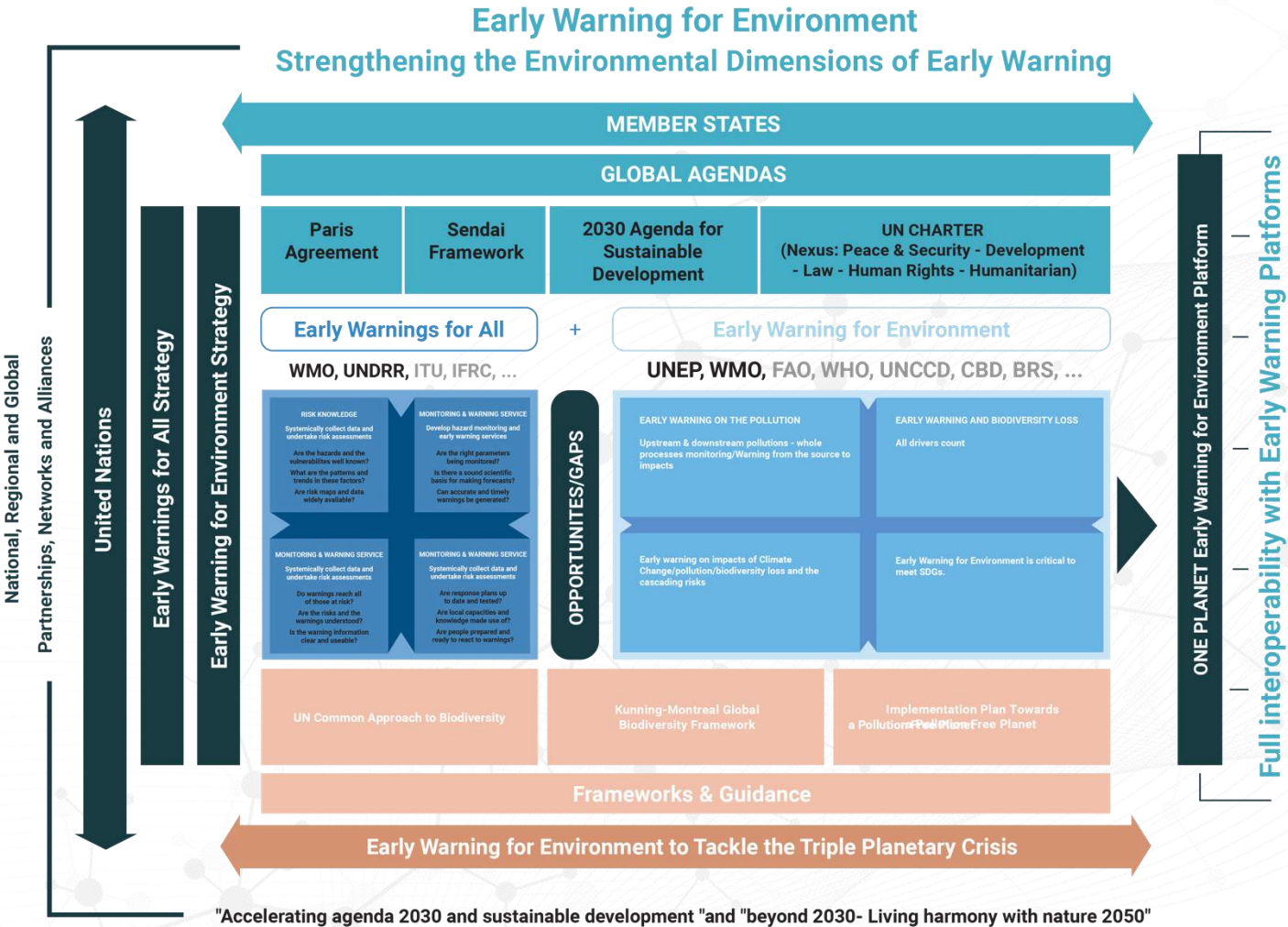


Towards the Sustainable Development Goals
For people, prosperity and equity



One UN Common Approach for Early Warning for Environment

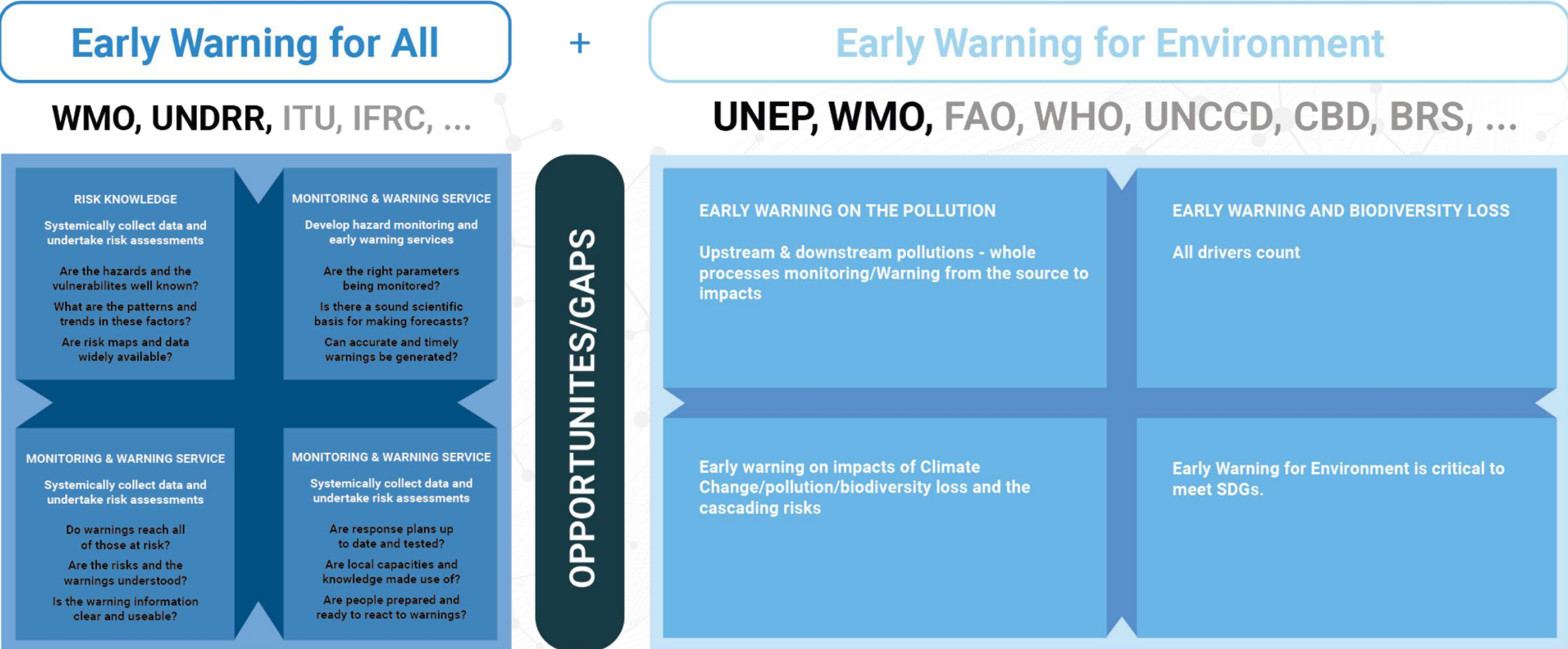
Synergies between Early Warning for All and EWE



The availability of timely, quality and disaggregated data is critical for accelerating the achievement of Agenda 2030 and the Sustainable Development Goals (SDGs). Data is fundamental for Early Warning services, particularly at the local, sub-national and national levels.

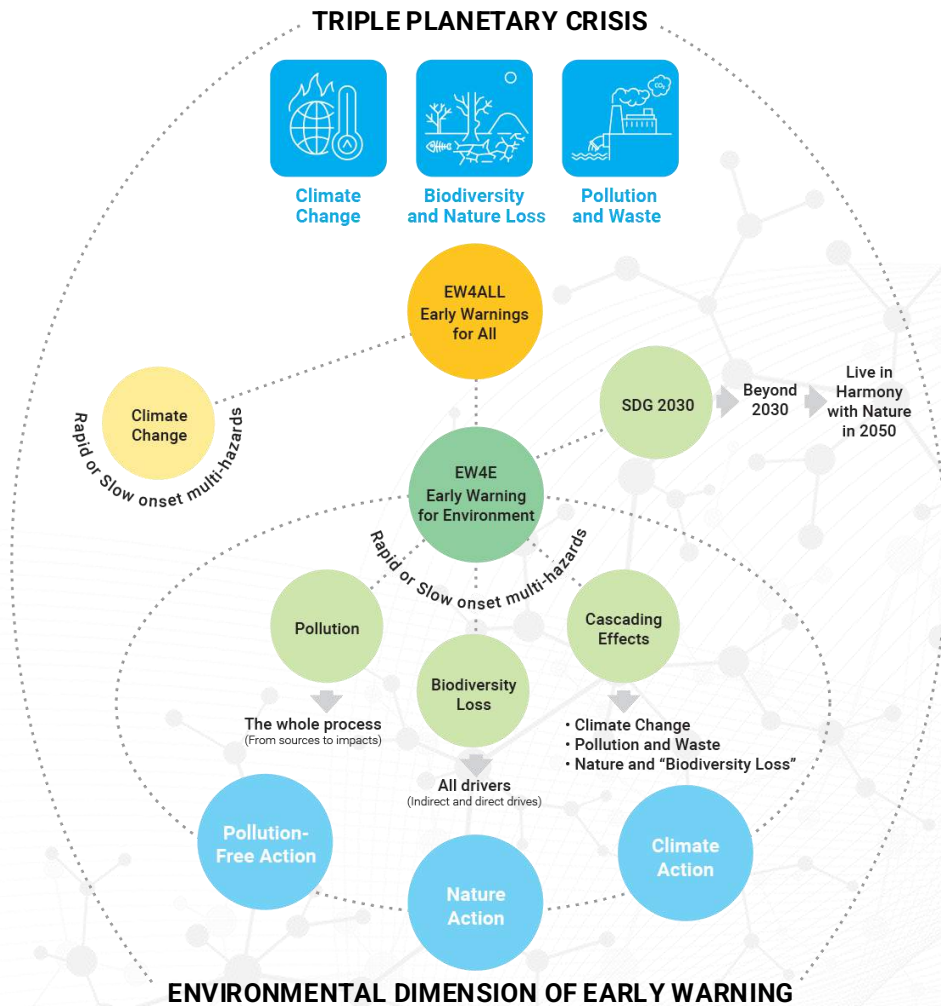
Early Warning for Environment

Synergies between Early Warnings for All and EWE



Synergies between Early Warnings for All and EWE

Early Warning for Environment Facilitated by UNEP
Co-creating with 14 UN Agencies and 3 MEAs



Early Warnings for All is co-led by WMO and UNDRR and supported by pillar leads ITU and IFRC. UNEP is one of implementing partners.



Outcomes of the Scoping Workshop (6-7 July 2023)

July 2023

November 2023

February 2024



- All participants from 4 plus 3 organizations (UNEP, WMO, ...) (FAO, WHO, CBD, UNCCD, BRS) seem to support the need for an Early Warning for Environment initiative (**4 Agencies and 3 MEAs**).



- Early Warning for Environment is to be **Anchored in the Early Warnings for All** is an important initiative (EW4ALL Environment).



- The scope of Early Warning for Environment is clear: focus on **Pollution and Biodiversity, Ecosystems degradation and Nature Solutions** in interlinkage with Climate Services.



- The Early Warning for Environment contributes directly to the **Agenda 2030 and SDGs** (Cross-Cutting Effects).

Outcomes of the Scoping Workshop (6-7 July 2023)

July 2023

November 2023

February 2024



- The availability of **timely, quality and disaggregated data** is critical for accelerating the achievement of Agenda 2030 and the Sustainable Development Goals (SDGs). Data is fundamental for the Early Warning for Environment services, particular at the local, sub-national and national levels.



- **Building on existing** platforms and monitoring and observation systems.



- **Capacity development and technology capacity development** are critical for the Early Warning for Environment function, even more relevant at the national, sub-national and local levels.



- The identification of a **typology of Hazards** is fundamental for the 'Early Warning for Environment' initiative.

Outcomes of the Scoping Workshop (6-7 July 2023)

July 2023

November 2023

February 2024



Group of **14** Agencies + **3** MEAs with **One** UN Common Approach to EWE



14 UN Agencies: UNEP, WMO, UNDRR, ITU, IFRC, FAO, WHO, UNDP, UNDA, OICT, OCHA, and IOM



3 MEAs: CBD, BRS and UNCCD



Across UNEP, including Ecosystems Division, Industry and Economy Division, Policy and Programming Division, the Chief Digital Office and Chief Scientist Office, and All 6 UNEP Regional Offices

Mission, Goals and Principles for EWE

Mission:

Protect all developing countries with EWE services on pollution and waste, nature and biodiversity loss, and together with EW4All on climate change, to minimize risks of disasters from the triple planetary crisis beyond 2030 and live in harmony with nature in 2050.

Goals:

- By 2030, at least half of developing countries before 2030 will be provided EWE services (*EW4All aims to cover all countries with early warning by 2027*).
- By 2035, all developing countries will be provided EWE services.

Principles:

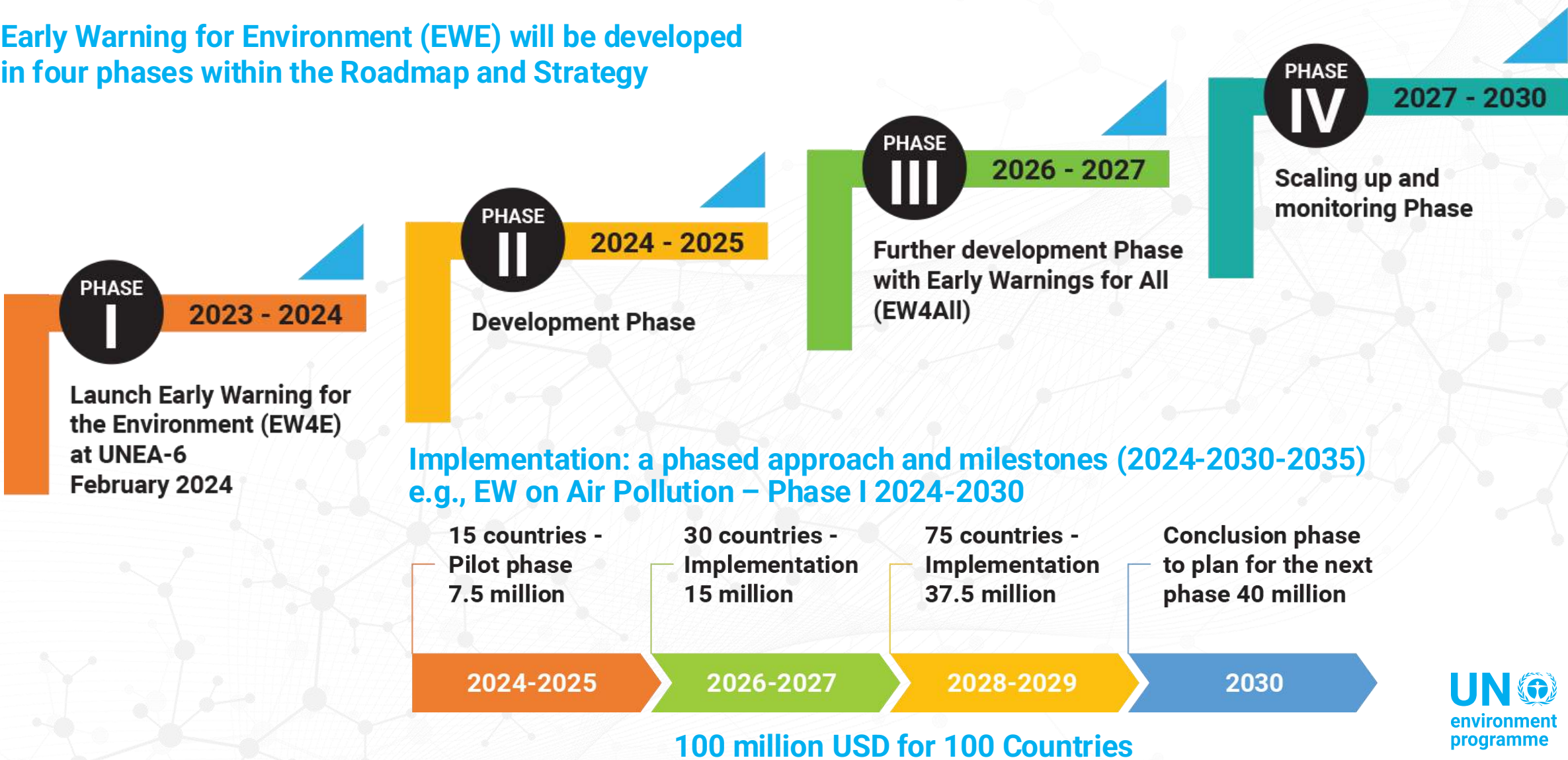
Demand-driven, country ownership and sustainable operations.



Envato Elements / AZ-BLT

UNEP's Early Warning Roadmap

Early Warning for Environment (EWE) will be developed in four phases within the Roadmap and Strategy



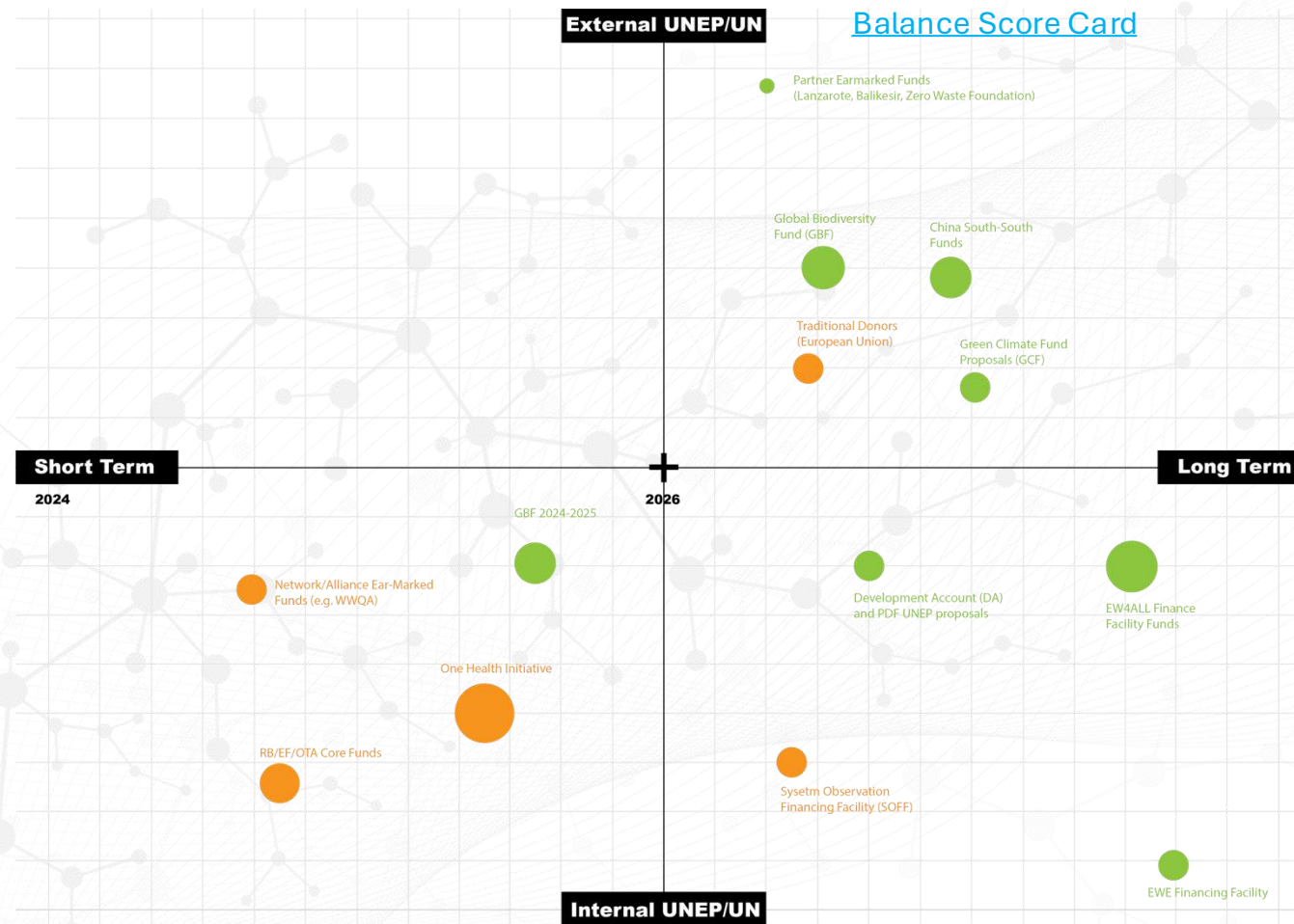
UNEP's Early Warning Funding Strategy (external, long term, big funds)

Early Warning function of UNEP is funded less than 3% CORE FUNDS

Within the Division represents less than 20%.

CORPORATE RISK

Our [Resource Mobilization and Funding Strategy](#) & [Balance Score Card](#)



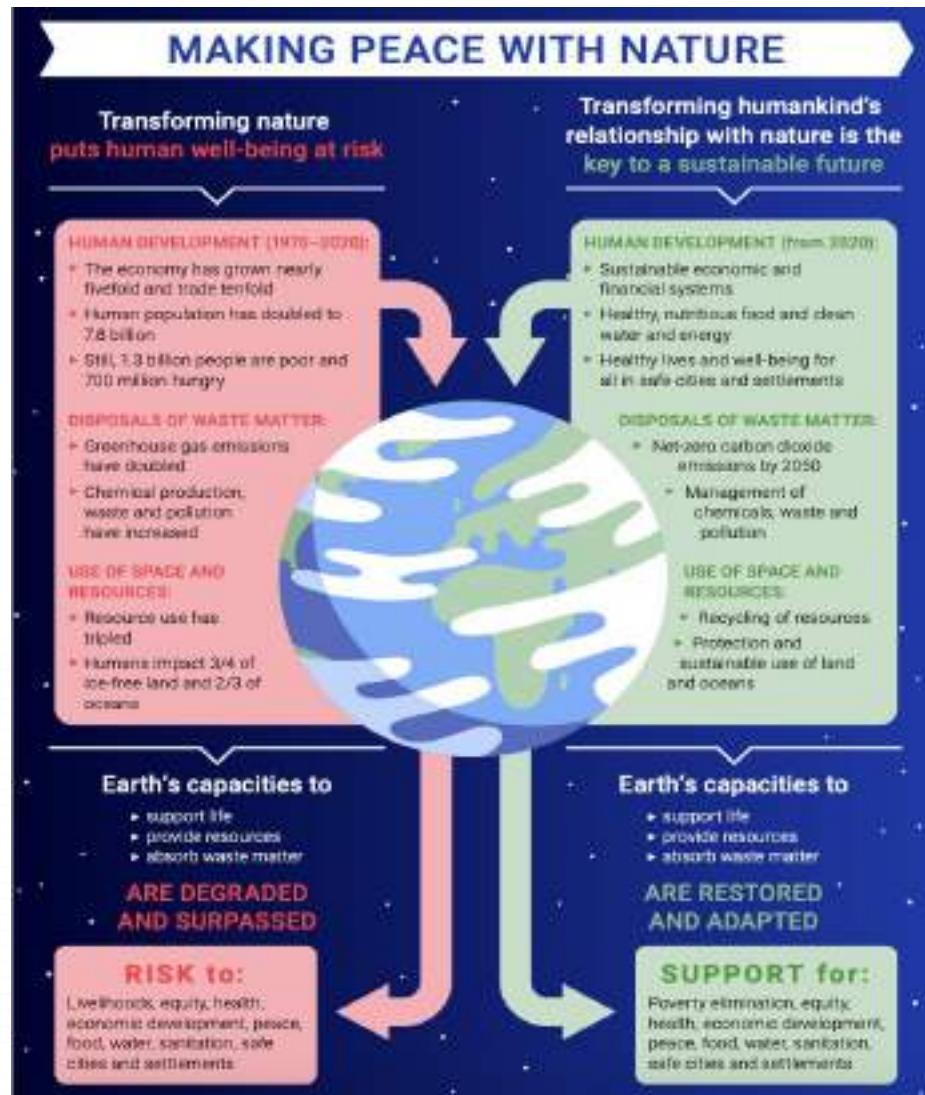
Agreed Strategic Pathway

A ONE UN Common Approach for Early Warning for Environment (EWE) to tackle the triple planetary crisis of climate change, biodiversity loss and pollution, within the umbrella of Early Warnings for All Initiative.

To build solutions at scale contributing to accelerate Agenda 2030 and the Sustainable Development Goals (SDGs). Focus on impacting in countries, implementing the environmental dimension of early warning throughout the risk management cycle (prevention, preparedness, response and recovery), with a particular focus on developing countries and the most vulnerable communities (such as SIDS, but groups as the elderly and youth), saving millions of lives and property, people, places and the Planet.

Adopt a multi-stakeholder approach with a user driven strategy and build on existing Partnerships across the UN system and beyond including the private sector and citizens and civil society.

UNEP's Early Warning Strategy



Accelerating **Agenda 2030**
and **Sustainable**
Development and
transforming the lives of
People, Places and Planet



Thank you

Questions and Answers



www.unep.org

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